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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/055,186

01/23/2002

Peter J. Schiller

14143

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7590

06/18/2004

DORSEY & WHITNEY LLP
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

SWARTHOUT, BRENT

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,186

Applicant(s)

SCHILLER ET AL.

Examiner

Brent A Swarthout

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-66 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 53-66 is/are allowed.
6) ☒ Claim(s) 45-52 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Triad Sentinel Article in view of Okada (318) and Namerikawa et al.

Triad teaches use of gyro means to provide backup display of attitude, direction and turn coordinate data, except for using a gyro having piezoelectric elements and structure, or using thin-film format.

Okada teaches desirability of sensing rotational velocity using a sensor comprising proof mass 220, membrane 213, common electrode layer E20 disposed on the membrane, sheet of piezoelectric material 250 disposed on layer E20, and plural electrodes G21-23 and D21-27 disposed on the piezoelectric material to form separate piezoelectric elements (Fig. 25, col. 30, lines 31-49; col.31, lines 38-47).

Namerikawa et al. teaches desirability of forming piezoelectric elements in a thin-film format in order to form a gyro (abstract; col.5, lines 42-46; col.8, lines 8-14).

It would have been obvious to use a thin-film piezoelectric sensor as suggested by Okada and Namerikawa in conjunction with a navigation display system as set forth by Triad, in order to obtain more accurate

velocity data, and to have a more uniform piezoelectric surface to obtain better performance.

2. Claims 46-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada (318) in view of Namerikawa et al.

Okada discloses a gyro having proof-mass, membrane, electrode layer, and piezoelectric material layer as set forth above, except for specifically stating the piezoelectric layer was of a thin-film format.

Namerikawa teaches desirability of applying a piezoelectric layer in a gyro using a thin-film format (col.8, line 10).

It would have been obvious to use a thin-film format for a piezoelectric layer in a device as set forth by Okada, in order to have a more uniform piezoelectric layer, to provide more accurate results.

Regarding claims 47-52, Okada teaches use of elements of relatively equal size in inner and outer rings, and mirror image elements on the opposite side of an axis through the mass. Choosing to use oval shape instead of circular shape (Fig. 26) would have been an obvious matter of design choice, based on routine experimentation.

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

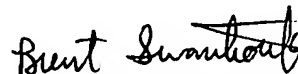
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent A Swarthout whose telephone number is 703-305-4383. The examiner can normally be reached on M-F from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on 703-305-4717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brent A Swarthout
Examiner
Art Unit 2636